

time lowering the waste gas outlet to the level of the bottom of the gas chamber where it will remove the coolest gases in the setting.

Fig. 81 shows a two-drum cylindrical boiler (*Hutte*). In this setting, those baffles which are built up from the bottom of the setting are entirely useless and may be removed. This setting will be better if built as shown in Fig. 82.

These three examples will serve to show very clearly the manner in which boiler settings may be greatly simplified. Nevertheless, it is well known that commercial boilers, particularly those designed for use upon ships, such as the Belleville, Niclausse,

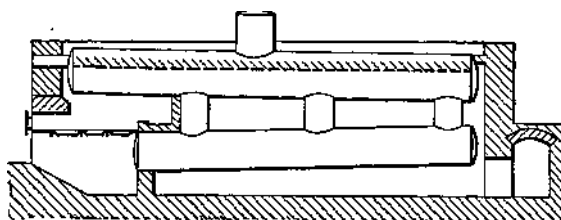


FIG. 82.

Yarrow, etc, are designed to work upon the updraft principle. This is a serious error, as it violates the law of gaseous flow, and as a result there is poor vaporization and a reduction in the efficiency of the application of the heat.

VH. CHAMBER FURNACES, BRICK AND POTTERY KILNS

Barely thirty years ago, direct or updraft kilns were practically the only kind used in the brick and pottery plants. At present their use is decreasing and there is a strong preference for the downdraft kiln.

It may be said that the direct or updraft kilns which are still in service are the last traces of these kilns in this industry. At the same time it is very curious to note that the firm, of Ernest Schmatolla, ^{t1)} which is engaged almost exclusively in the construction of brick and pottery-kilns, in a book published by them, devote almost the entire volume to a description of the old updraft

kilns, and make no mention of the
downdraft kiln beyond the
brief statement that these kilns generally
give better results than
the updraft kiln.

⁽¹⁾ *Ernest Schmatolla, Die Brennofen,*
1903.